

In the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A method for the preparation of evolved microorganisms, comprising the following steps: a) preparing a modified microorganism by directed genetic modification of cells of an initial microorganism so as to inhibit the production or consumption of a metabolite when that microorganism is grown on a defined medium, thereby impairing the ability of that microorganism to grow; b) culturing the modified microorganism thereby obtained on said defined medium, wherein the defined medium can contain a co-substrate; and c) selecting a modified microorganism able to grow on said defined medium, if necessary with a co-substrate, and thereby preparing an evolved microorganism.
2. (Currently Amended) The method as claimed in claim 1, wherein the modified microorganism has a modified metabolic pathway [[is]] selected from the group consisting of: biosynthesis pathways of amino acids, synthesis pathways of nucleic acids, synthesis pathways of lipids, and metabolism pathways of sugars.
3. (Original) The method as claimed in claim 2, wherein the modified metabolic pathway is a biosynthesis pathway of amino acids.
4. (Previously Presented) The method as claimed in claim 3, wherein the modified metabolic pathway is a biosynthesis pathway of an amino acid chosen from among: methionine, cysteine, threonine, lysine, and isoleucine.
5. (Original) The method as claimed in claim 2, wherein the modified metabolic pathway consumes NADPH.
6. (Original) The method as claimed in claim 1, wherein the modification made in step a) favors the reduction of NADP to NADPH.

7. (Original) The method as claimed in claim 2, wherein the modification made in step a) favors the reduction of NADP to NADPH.
8. (Original) The method as claimed in claim 1, wherein the evolved microorganism possesses at least one evolved gene coding for an evolved protein, the evolution of which replaces the inhibited metabolic pathway by a new metabolic pathway.
9. (Original) The method as claimed in claim 8, wherein it includes a step d) consisting of the isolation of the evolved gene coding for the evolved protein.
11. (Original) The method as claimed in claim 9, wherein the evolved gene is introduced, in an appropriate form, into a production microorganism intended for the production of the evolved protein.
12. (Previously Presented) The method as claimed in claim 1, further comprising an additional step a1) consisting of the introduction of at least one heterologous gene coding for a heterologous protein, which heterologous gene is to cause the evolution of a new metabolic pathway preparatory to step b) in which the modified microorganism is grown.
13. (Previously Presented) The method as claimed in claim 12, further comprising a step d) consisting of the isolation of the evolved gene coding for the evolved protein.
14. (Original) The method as claimed in claim 13, wherein the evolved gene is introduced, in an appropriate form, into a production microorganism intended for the production of the evolved protein.
- Claims 15-21 (Cancelled).